# articles

# Outcome Studies on the Efficacy of Art Therapy: A Review of Findings

Sarah C. Slayton, Jeanne D'Archer, and Frances Kaplan, Marylhurst, OR

#### **Abstract**

In response to a review by Reynolds, Nabors, and Quinlan (2000) of the art therapy literature prior to 1999, this review article identifies studies from 1999–2007 that measured outcomes of art therapy effectiveness with all ages of clinical and nonclinical populations. Although numerous studies blend art therapy with other modalities, this review is limited to studies that isolate art therapy as the specific intervention. The results of this review suggest that there is a small body of quantifiable data to support the claim that art therapy is effective in treating a variety of symptoms, age groups, and disorders.

### Introduction

As we near the end of the first decade of the 21st century, our intuitive skills as people, art therapist clinicians, and artists continue to affirm that art making helps clients and patients—and us. Yet there is a need for evidence that this is so. Because it serves to treat major mental illnesses and transient but serious symptoms of trauma, as well as providing a response to the consequences of social problems, art therapy is needed as much as it ever has been, if not more. One can imagine, for example, that the effects of war, the implications of complex trauma, neurological impairments from traumatic brain injuries, and the emergence of new addictive substances have created greater mental health challenges than in previous generations. Clinicians practicing in the United States for several decades often comment that their clients' problems have increased in severity in the past 5 to 10 years (E. Bagley, personal communication, June, 2008; C. Turner, personal communication, September, 2008). Given these dilemmas, it is ever more important that art therapists produce evidence to support our intuitive knowledge that art heals.

Editor's Note: Sarah C. Slayton, MA, ATR-BC, Jeanne D'Archer, MA, ATR-BC, and Frances Kaplan, DA, ATR-BC, are associate faculty members in the Art Therapy Counseling Department of Marylhurst University, Marylhurst, OR. Correspondence concerning this article may be addressed to the first author at sslayton@marylhurst.edu

With this goal in mind, the authors of this paper sought to continue where Reynolds, Nabors, and Quinlan (2000) left off in their review of art therapy effectiveness studies in the literature prior to 1999, from which they identified 17 studies that met their inclusion criteria. These criteria were that the studies assessed the impact of art therapy on a measurable outcome and also assessed the impact of treatment on a sample or treatment group. Reynolds et al. also attempted to identify any outcome trends that could be associated with various research study designs and to discuss their implications.

The earliest studies included in the report were White and Allen's 1971 school-based study on the role of art in counseling on the development of self-concept, and Silver and Lavin's 1977 study on the use of art in the evaluation and development of cognitive skills. Both of these studies were published in educational journals. Reynolds et al. (2000) also identified the first research study published in an art therapy journal (Chin et al., 1980), which documented a significant change in self-esteem in underserved adolescents. However, this and many of the other studies discussed by Reynolds et al. combined art therapy with other interventions, making it impossible to determine the actual effect of the art therapy intervention itself as the agent for positive change. Additionally, many of the studies reviewed did not provide detailed descriptions of the art therapy intervention. In their report, Reynolds et al. noted an overall lack of standardization and reporting in the literature on outcome studies.

These predicaments—and the fact that there are only a couple of decades of research documenting some support for art therapy—were put forth by Reynolds et al. in 2000 as motivation for more focused research in this area. We believe that this call has led to some gains in the years since their review. Our intention was to compile a review of recent outcome studies so that art therapy students, clinicians, and readers may access the data and assess the strength and relevancy of the data in accordance with their respective needs.

To identify how far the field has come since the 2000 study, we undertook a systematic review of the academic journals in the field of art therapy (Art Therapy: Journal of

the American Art Therapy Association, The Arts in Psychotherapy, The Canadian Journal of Art Therapy, The International Journal of Art Therapy). We also searched for outcome studies using art therapy treatment in the related fields of creativity, psychology, psychiatry, counseling, education, nursing, and medicine. Our search included abstracts and full text articles from the databases PsycINFO, Medline/PubMed, CINAHL, ERIC, EMBASE, Genamia JournalSeek, and Sagepub using these specific keywords: art therapy, treatment outcomes, measurement, psychological assessment, and outcomes. We reviewed published research from January of 1999 through December of 2007. Like Reynolds et al. (2000), we considered studies of all age populations. We used the following inclusion criteria, the first two of which were also utilized by Reynolds and his colleagues: (a) studies had to assess the impact of art therapy on a measurable outcome, (b) studies had to measure the impact of treatment on a sample or treatment group, and (c) studies had to utilize art therapy as measured distinctly and separately from other treatment intervention factors (i.e., participants used visual art media and were facilitated by an art therapist or qualified clinician).

At first glance, we found numerous reports of outcome studies. However, many studies that have been conducted since 1999 will not be discussed here because they combined art therapy interventions with other expressive arts (such as video, dance, movement, theater, writing, and music) or with other types of treatment interventions. We also omitted studies that did not utilize interventions or activities facilitated by a trained art therapist or qualified clinician (such as studies in which the participants did art activities on their own).

Our analysis led to the identification of four useful categories of art therapy outcome studies: (a) thorough and detailed qualitative studies, (b) single-subject pre/posttest designs, (c) designs using control and treatment groups without random assignment, and (d) controlled clinical trials with randomized assignment to groups.

### **Qualitative Studies**

In a useful qualitative study, the researcher can describe nuances of the intervention that cannot be described as readily in other types of studies. Table 1 identifies qualitative studies published since 1999 that offer evidence as to whether or not art therapy addressed the therapeutic or developmental needs of participants. The studies by Ball (2002) and Hosea (2006), for example, provided in-depth discussions of attachment needs in their populations in the context of the therapeutic setting. Despite their examination of two different populations—clinical and nonclinical—both authors offered astute discussions on the complexities of attachment utilizing the ideas of Stern (1985) as applied through art therapy treatment.

Ball's (2002) small (N=5) but detailed long-term study of severely emotionally disturbed children who participated in 50 sessions of individual art therapy provided evidence that art therapy treatment was a successful intervention for these children and suggested that art therapy may

be an effective treatment for the population. Both the child clients and the therapist were able to identify moments of change and growth during the art therapy process. Children with severe emotional disturbance can be particularly challenging to treat, with disrupted attachment seen as a widespread and complex clinical dilemma; thus, Ball's study may be applicable in asserting individual art therapy as an effective intervention for this population.

Although the participants in Hosea's (2006) study did not present with clinical disorders, her study (N = 12) provided valuable data regarding interactions between the mothers and toddlers in her painting group. As measured by videos of sessions and interviews with mothers, participants reported the specific benefits of *containment* provided by the therapist, *emotional expression* as allowed by the quality of the art medium (paint), and the *physical proximity* required by the activity (the closeness of painting together) that literally and emotionally connected the dyads.

Smeijsters and Cleven (2006) examined art therapy in forensic settings with adults in the Netherlands and Germany. After collecting art and detailed reports from eight art therapists working with this population, the researchers found evidence that art therapy enables resistant clients in forensic settings to change their cognitive distortions. This finding may be important for a population whose "thinking errors" are a common treatment focus.

The remaining qualitative studies listed in Table 1 cover a range of populations, including incarcerated women dealing with loss, children with family issues, women diagnosed with lupus, and elders suffering from dementia. According to the authors of these reports, all the art therapy interventions under study yielded benefits for their respective participants.

### **Quantitative Studies**

#### Single-Subject Pre/Posttest Design

As was found by Reynolds et al. (2000), the singlesubject pre/posttest design appears to be the most prevalent design used in art therapy outcomes research, with 13 studies falling into this category. Most of these studies (identified in Table 2) involved participants from a single treatment group, although some utilized a single case (N = 1)design. Because they lack control groups, the shortcoming of these studies is that they measure change but cannot conclusively determine if it is the result of the treatment (Leedy & Ormrod, 2005). Other limitations in the studies reviewed include small sample sizes, short duration of treatment, modification of standardized measures, and use of art therapy in combination with verbal and other nonexpressive therapies. Nonetheless, as Gilroy (2006) noted regarding the cumulative findings of quantitative studies, when viewed as a group the cumulative findings of these studies suggest positive change.

The studies in this category implemented a wide range of interventions, involved numerous populations, and used various measurement tools. Although each study should be evaluated on its own merits, we note two studies in partic-

**TABLE 1** Qualitative Studies

Author	Size (N)	Population	Intervention	Time	Tool(s)/Measures	Results
Ball (2002)	5	Emotionally disturbed young children with attachment disorder in a residential setting	Individual art therapy (drawing, painting, sewing)	One year (50 sessions)	Art therapist interviews, coded information	Both client and art therapist were able to identify positive change/growth
Ferszt, Hayes, DeFedele, & Horn (2004)	8	Incarcerated adult women who had experienced the death of a loved one during incarceration	Weekly art therapy group	8 weeks	Post-group client interviews	7 of 8 clients described having a positive experience and a safe place to explore grief or feelings deemed unacceptable in a prison setting
Gersch & Sao Joao Goncalves (2006)	5	10-year-old children with family issues, grief, and various stressors	School-based group art therapy (exact intervention not explained)	One year	Post-treatment focus group interviews with children	All children reported that art therapy specifically helped them to better cope with feelings
Hosea (2006)	12	Mothers and toddlers	Weekly painting group	8 weeks	Video taped sessions, interviews of mothers, qualitative analysis	Paint and color brought dyads closer; viewing the videos was seen by mothers as important
Nowicka- Sauer (2007)	38	Adult women with Lupus	Group art therapy; "draw the disease" directive	Not specified	Qualitative analyses of cases to reveal the psychological lives of the patients	Drawing was seen as an advantage over verbal interviewing alone
Seifert & Baker (2002)	7	Adults (ages 83–89) with Alzheimer's disease/dementia	Twice weekly activities group using drawing	3 years	Formal elements of artwork analyzed and recorded	Details in drawings decline but symmetry persists long into the disease; clients desire symmetry and benefit from symmetry
Smeijsters & Cleven (2006)	*	Adults in forensic institutions	Use of media (painting, stone work, and more) to create metaphors for frustration tolerance	Not specified	Detailed reports submitted by art therapists on 7 problem areas	All 7 problem areas were successfully addressed by art therapy; decrease in cognitive distortions

ular that had statistically significant findings with larger sample groups. Pifalo's (2006) follow-up to her pilot study (2002) demonstrated that cognitive—behavioral art therapy was successful in addressing trauma symptoms in child and adolescent victims of sexual abuse. Saunders and Saunders (2000) conducted a long-term study of a relatively large sample (N=94) of children and adolescents who were at risk for long-term behavioral problems. Their evidence suggests that art therapy not only helped diminish behavioral problems to a statistically significant degree but also allowed for a stronger relationship with the therapist. The

researchers measured eye contact and other nuances of the therapeutic relationship while simultaneously measuring numerous behavioral problems. They found that the latter decreased in accordance with the clients attending art therapy sessions and getting to know their therapist over time.

# Control Treatment Group Without Random Assignment

The category with the fewest number of studies was the control treatment group with random assignment. Table 3 identifies four studies that compared participants in an art

**TABLE 2** Pre/Posttest Studies

Size (N)	Population	Intervention	Time	Tool(s)/Measures	Results
5	Adults diagnosed with personality disorders	Weekly group art psychotherapy	9 months	Clinical Outcome and Routine Evalu- ation, Brief Symptom Inventory, and the Positive Symptom Distress Index (PSDI)	Statistically signifi- cant reduction in mean score on PSDI; reduction of symptoms; observed improvements
4	Children and adolescents undergoing bone marrow transplants	Individual art therapy using the "squiggle game" (Winnicott, 1971)	2 or 3 sessions	Analysis of themes depicted in the squiggles compared with stress reactions	Engagement in squiggle game and with therapist decreased stress reactions
48	Incarcerated adult men	Group art therapy	8 groups	Person Picking an Apple from a Tree (PPAT); Formal Ele- ments Art Therapy Scale (FEATS); Likert Scale on interpersonal interactions and compliance with rules	Statistically significant improvements in behavioral functioning and mood
161	Patients with chronic diseases (ages 5–71)	Anthroposophic art therapy	15 sessions (median)	SF-36 Health Survey; KINDL Questionnaire for Measuring Health- Related Quality of Life in Children and Adolescents	Significant improve- ments with respect to disease, symp- toms; mental scores were shown and maintained
*	5-year-old boy with sensory integration (SI) difficulties	Art therapy with a rotation of media choices	10 weeks	SI traits assessment questionnaire; Touch Inventory for Elementary Aged Children; FEATS pre- and posttest; teacher rated behavior reports	Child's artwork and behavior became closer to age- appropriate; greatest improvement in behavior followed easel painting
14	Children and adolescents with cerebral palsy and severe dysarthria	Art therapy integrated with logopedic therapy	4 months	Standard neuro- psychological tests for speech fluency; Auditory Dysarthria Scale	Statistically signifi- cant improvements in speech intelligibil- ity, volume, tempo, fluency, and control of pauses
*	Girls and young women who had been sexually abused (ages 8–17)	Structured group art therapy in three groups separated by age	10 weeks	Briere's Trauma Symptom Checklist for Children (TSCC)	Statistically significant reductions on 3 TSCC Anxiety, PTSD, and dissociation scales
41	Children and young adults who had been sexually abused (ages 8–16)	Group art therapy integrated with cognitive—behavioral therapy in three groups separated by age	8 weeks	Briere's TSCC	Statistically significant reduction on 9 of 10 clinical TSCC subscales
	(N) 5 4 48 161 *	(N) Population  5 Adults diagnosed with personality disorders  4 Children and adolescents undergoing bone marrow transplants  48 Incarcerated adult men  * 5-year-old boy with sensory integration (SI) difficulties  * Children and adolescents with cerebral palsy and severe dysarthria  * Girls and young women who had been sexually abused (ages 8–17)  41 Children and young adults who had been sexually abused seen sexually abused seen sexually	(N)       Population       Intervention         5       Adults diagnosed with personality disorders       Weekly group art psychotherapy         4       Children and adolescents undergoing bone marrow transplants       Individual art therapy using the "squiggle game" (Winnicott, 1971)         48       Incarcerated adult men       Group art therapy         *       5-year-old boy with sensory integration (SI) difficulties       Art therapy with a rotation of media choices         14       Children and adolescents with cerebral palsy and severe dysarthria       Art therapy integrated with logopedic therapy         *       Girls and young women who had been sexually abused (ages 8–17)       Structured group art therapy in three groups separated by age         41       Children and young adults who had been sexually abused (ages 8–16)       Group art therapy in three groups in three groups in three groups	(N)       Population       Intervention       Time         5       Adults diagnosed with personality disorders       Weekly group art psychotherapy       9 months         4       Children and adolescents undergoing bone marrow transplants       Individual art therapy using the "squiggle game" (Winnicott, 1971)       2 or 3 sessions         48       Incarcerated adult men       Group art therapy       8 groups         thronic diseases (ages 5–71)       Anthroposophic art therapy       15 sessions (median)         *       5-year-old boy with sensory integration (SI) difficulties       Art therapy with a rotation of media choices       10 weeks         14       Children and adolescents with cerebral palsy and severe dysarthria       Art therapy integrated with logopedic therapy       4 months         *       Girls and young women who had been sexually abused (ages 8–17)       Structured group art therapy in three groups separated by age       10 weeks         41       Children and young adults who had been sexually abused (ages 8–16)       Group art therapy integrated with cognitive—behavioral therapy in three groups       8 weeks	Adults diagnosed with personality disorders   Seekedy group art psychotherapy   Semints   Clinical Outcome and Routine Evaluation, Brief Symptom Distress Index (PSDI)

(Table 2 continued on next page)

TABLE 2 Pre/Posttest Studies (continued)

Author	Size (N)	Population	Intervention	Time	Tool(s)/Measures	Results
Ponteri (2001)	4 mother /child pairs	Mothers with depression that affected their parenting	Group art therapy	8 weeks	Mother/child drawing scored with adapted FEATS; Interaction Rating Scale; Mother Questionnaire; Maternal Self-Report Inventory (Short Form)	Self-assessments indicated more positive self-image; mother/child drawings showed improvements; Interaction Rating Scale indicated half of the mothers had integrated the gains indicated on self-reports
Pounsett, Parker, Hawtin, & Collins (2006)	3	Adults with learning and developmental disorders	Individual art therapy	One year	Play Observation and Emotional Rating System modified by authors	Statistically significant improvements for all clients in most areas, including affective, attention, and level of acuity
Sacchett, Byng, Marshall, & Pound (1999)	7	Stroke patients with severe aphasia	Individual art therapy using drawing for communication	12 weeks	Generative Drawing Test; interviews; Pragmatics Profile of Everyday Communi- cation Skills in Adults	Improved ability to communicate and make recognizable drawings
Saunders & Saunders (2000)	94	Outpatient emotionally and behaviorally disturbed children and teens (ages 2–16)	Individual art therapy	3 years	Checklists that rated 14 presenting problems and 24 symptomatic behaviors; Initial Therapeutic Relation- ship (ITR) rating	Significant findings in success of art ther- apy overall; severity of 23 of 24 behaviors decreased; significant correlation of sessions attended and higher ITR score
Wallace- DiGarbo & Hill (2006)	19	7th- and 8th- grade students exhibiting truancy	Group art intervention program using mural making and journaling	sessions over 6 weeks	Pre/post assessment and 6 month follow up of family/school/peer relationships, deviancy, and attitude factors; psychological profile	No statistically significant changes were found; trend toward positive changes seen at 6 month follow up

therapy group with another group of participants who were not receiving art therapy. These quasi-experimental designs offer more rigorous indicators of cause and effect than single-subject pre/posttest designs but they are still limited in that the control and treatment groups may not be fully equivalent (Leedy & Ormrod, 2005).

Hartz and Thick's (2005) study of incarcerated adolescent girls not only supported the claim that art therapy is beneficial for this population but also illustrated the characteristic functions of both art psychotherapy and art as therapy—the two original theoretical orientations of the field. Although they work in slightly different ways, both art psychotherapy and art as therapy are effective in addressing self-esteem, which is a core issue with this population. Self-esteem can be related to all populations (Franklin, 1992). Franklin (1992) proposed that art making may function as

a metaphor for the construction of the self or for building core levels of self-esteem. The study by Hartz and Thick may provide empirical support for Franklin's theory, as well as validate what Naumburg (1966) and Kramer (1958) formulated long ago.

## Clinical Trials With Random Assignment of Groups

Our search yielded 11 studies that had fully experimental designs with random assignment of groups (Table 4). Although small, it was encouraging to find a growing number in the category of experimental designs, which is the most widely applicable and effective study design for determining outcomes, according to Leedy and Ormrod (2005). One such study was conducted by Lyshak-Stelzer,

Size Author (N)**Population** Intervention Time Tool(s)/Measures Results Bar-Sela, 60 Adult cancer Weekly individual 4 sessions Hospital Anxiety Statistically significant patients Atid, art therapy with an and Depression improvements in Danos, anthroposophic Scale: Brief depression and fatigue Gabay, & philosophy; Fatigue Inventory in intervention group; Epelbaum watercolor painting no change in anxiety (2007)between groups Favara-Children with Group art therapy Information not Art therapy appeared Scacco, leukemia available to promote more Smirne, (ages 2-14)cooperative behavior Schiliro, during painful & Di medical interventions Cataldo (2001)Hartz 31 Adolescent Art as therapy 1 - 1.5Self-Perception Statistically signifi-& Thick girls convicted groups compared Profile for Adolescant gains on 6 of 8 years (2005)of felonies in with art psychocents; Hartz Art self-esteem domains a correctional therapy groups Therapy Self-Esteem setting Questionnaire Italia, 65 Doctors and Group A (medical Group B had Maslach Burnout significantly Favaranurses who personnel on an adult Inventory Scacco, work with oncology unit) had no decreased burnout Di Cataldo, art therapy; Group B after art therapy oncology & Russo (medical personnel on interventions patients (2008)a child oncology unit) had art therapy \* Information not available

TABLE 3 Studies With Control Group and No Random Assignment

Singer, St. John, and Chemtob (2007). As with Pifalo's (2002, 2006) studies mentioned earlier, these researchers were concerned with the impact of traumatic events on young people in need of mental health services. Lyshak-Stelzer et al. implemented a trauma-focused art therapy group with hospitalized adolescents who were being treated for posttraumatic stress disorder. The results indicated statistically significant symptom reduction for the adolescents who were in the trauma-focused art therapy group. Additionally, daily milieu records indicated a trend that there would be a likelihood of fewer behavioral incidents and seclusions, despite "a concern among some clinicians that directly addressing trauma-related memories and reactions could be clinically destabilizing" (Lyshak-Stelzer et al., 2007, p. 164).

Although the duration of treatment was short, Puig, Min Lee, Goodwin, and Sherrard (2006) conducted a well-designed study of 39 women with breast cancer who were randomly assigned to groups; members of the experimental group (n = 20) received art therapy for 4 weeks and members of the control group (n = 19) were offered art therapy after 4 weeks. Puig et al.'s purpose was to determine if emotional expression and spiritual functioning would be improved with art therapy. Although the results did not show statistically significant improvements in emotional expression and spiritual functioning specifically, the Profile of Mood States

(McNair, Lorr, & Droppelman, 1971) yielded clinically significant improvements on four of the six scales of psychological well-being assessed: anger/hostility, confusion/bewilderment, depression/ dejection, and tension/anxiety.

Addressing the growing need for treatment in the area of gerontology, Rusted, Sheppard, and Waller (2006) conducted a study in which they concluded:

The use of art therapy for people with dementia provided clear evidence of positive and durable benefits to aspects of mental alertness, sociability, and physical and social engagement in clients with moderate and severe dementia. These changes were quantitatively and qualitatively different from the pattern of effects achieved in the parallel program of recreational activity. (p. 531)

These authors provided in-depth discussion of quantitative and qualitative results, as well as an analysis of limitations in their study, all of which may encourage other researchers to strengthen their outcome study designs.

#### Discussion

Art therapist researchers have emphasized for some time that structured inquiry should be a priority in our work (Kaplan, 1998; Levick, 1983; Rosal, 1989; Silver & Lavin, 1977; Wadeson, 1978). In comparison to many sci-

TABLE 4 Clinical Trials With Random Assignment

Author	Size (N)	Population	Intervention	Time	Tool(s)/Measures	Results
Chapman, Knudson, Ladakakos, Morabito, & Schreier (2001)	85	Children and adolescents (ages 7–17) diagnosed with posttraumatic stress disorder and hospitalized for average of 4.4 days	31 patients received the Chapman Art Therapy Treatment Intervention (CATTI); 27 received standard hospital care; 27 did not present with PTSD symptoms	One 60- minute session	UCLA PTSD Index, Child, Adolescent and Parent Versions; PTSD Diagnostic Scale; Family Environ- ment Scale; Nursing Checklist	No significant differences found overall; however, CATTI group showed fewer DSM-IV PTSD criteria C (avoidance) symptoms at 1 week and sustained at 1 month
Curry & Kasser (2005)	84	Undergraduate students	After anxiety was induced, participants either colored a prepared mandala, colored a complex plaid pattern, or freely colored	One 20 minute coloring activity session	State Anxiety Inventory	Coloring mandalas and plaid patterns decreased anxiety to below baseline; free coloring did not relieve any anxiety
De Petrillo & Winner (2005)	62	Undergraduate students (art majors and non-art majors)	After a negative mood was induced, partici- pants either created a drawing about their feelings or copied geometric shapes	One session	Affect Grid rated both the images of tragedy and the activity	Mood improved for participants who made art regardless of their majors
Gussak (2006)	29	Incarcerated adult men	Group art therapy	8 sessions	PPAT/FEATS; Beck Depression Inventory Short Form (BDI-II)	Significant improve- ments in symptoms of depression on the BDI-II
Henderson Mascaro, & Rosen (2007)	36	Undergraduate students screened for trauma history and symptoms	Experimental group drew 3 mandalas with symbols to represent distressing events; control group created 3 drawings from a still life	One drawing per day for 3 con- secutive days	BDI-II; State-Trait Anxiety Inventory; Spiritual Meaning Scale; Pennebaker Inventory of Limbic Languidness	Experimental group had more severe trauma symptoms before study than control group but less severe symptoms one month later
Lyshak- Stelzer, Singer, St. John, & Chemtob (2007)	29	Inpatient adolescents diagnosed with posttraumatic stress disorder	Experimental group received trauma-focused group art therapy; control group received "treatment as usual" art activities	2 years	UCLA PTSD Reaction Index; milieu behavioral expectations	Statistically significant reduction in trauma symptoms in the experimental group; also a trend in the reduction of behavioral incidents and seclusions
Pizarro (2004)	45	Undergraduate students	One experimental group ("write-stress") wrote about stressful events; one experimental group ("art-stress") drew about stressful events; control group drew from a still life	Two 60-minute sessions	General Health Questionnaire; Global Measure of Perceived Stress; Physical Symptoms Inventory; Short Version of the Profile of Mood Scale; Participant Satisfaction Survey	Significant health benefits for the write- stress group but not the art-stress group; art-stress group most often reported enjoying the sessions and were most likely to continue treat- ment over any other

Author	Size (N)	Population	Intervention	Time	Tool(s)/Measures	Results
Puig, Min Lee, Goodwin, & Sherrard (2006)	39	Adult women with stage I or II breast cancer	Experimental group received group art therapy; control group received delayed treatment 4 weeks later	4 sessions over 4 weeks	Profile of Moods (POM) scale	Statistically significant improvement on 5 POM subscales
Regev & Guttman (2005)	109	Elementary school children	One experimental group received art instruction; one experimental group received games; control group received art therapy	One session	Piers-Harris Children's Self-Concept Scale; Intellectual Achieve- ment Responsibility Questionnaire; Children's Sense of Coherence Scale; Loneliness and Social Dissatisfaction Questionnaire	No demographic differences found between 4 groups; free art activity and games had some impact in the statistical analysis of self-concept and responsibility
Richard- son, Jones, Evans, Stevens, & Rowe (2007)	90	Outpatient adults diag- nosed with schizophrenia	Experimental group received group art therapy based on Waller (1993); control group received regular psychiatric care (no art therapy)	12 sessions	Scale of the Assessment of Negative Symptoms (SANA)	No significance in 6 of 7 outcome measures; the SANA yielded significant incremental benefit for the art therapy group
Rusted, Sheppard, & Waller (2006)	45	Older adults with dementia in day and residential treatment	Experimental group received group art therapy; control group received non-art activities	40 weeks	Mini Mental Status Exam; National Adult Reading Test; Cornell Scale and Dementia; Multi Observational Scale for the Elderly; Rivermead Behavioral Memory Test; Test of Everyday Attention; Benton Fluency Task; Bond-Lader Mood	Clear evidence of positive and durable benefits in mental alertness, sociability, and physical and social engagement for the art therapy group

TABLE 4 Clinical Trials With Random Assignment (continued)

entific fields, the body of studies in art therapy that has accumulated since its inception is minimal.

The results of these 35 studies provide varying degrees of support that art therapy does work. Compared to 10 years ago when Reynolds et al. (2000) found only 17 studies that met the criteria in their review, the fact that there are 35 studies in our review provides clear evidence of improvement. Although most of the studies do not meet the highest standard in efficacy research, they do serve to add support to the few that do. As Gilroy (2006) remarked:

Quantitative research of all kinds is usually replicated and therein lies its strength. Repetition either highlights erroneous results or confirms true results. The findings of several small experiments can be combined to produce the strong, composite, critical mass of outcome research...that can be represented in systematic reviews. (p. 119)

Reynolds et al. (2000) felt that they could only state, "in the few studies that have been performed, art therapy

appears to be effective, but not usually more effective than the standard therapy" (p. 211). Even though much more research is needed, we found that a small body of studies now exists in which art therapy as a treatment modality has been isolated, measured, and shown to be statistically significant in improving a variety of symptoms for a variety of people with different ages. The range of participants represented in our survey of studies was broad; it included young children, elders, and all ages in between. A range of treatment settings also was represented, including schools, outpatient clinics, day treatment centers, residential homes and treatment centers, hospitals, correctional facilities, and nonclinical settings. Undoubtedly there are populations not represented in these studies that could be addressed in future research.

It should be noted that we were able to cite studies from the journals of various clinical disciplines as well as from art therapy journals, indicating that there is growing support for art therapy. This contrasts with earlier reviews of art therapy effectiveness by Burleigh and Beutler (1997) and Reynolds et al. (2000). They found very little evidence to support art therapy as a means of improving behavior problems in children. Of the 35 studies in our review 10 years later, 14 included child subjects (ages 12 years and under) and 12 included adolescent subjects (ages 13–18 years). A variety of mental health, developmental, and medical patient groups are represented in our review and many include behavior problem profiles. We now have some evidence that art therapy can lead to positive treatment outcomes for these populations (Ball, 2002; Lyshak-Stelzer et al., 2007; Pifalo, 2002, 2006; Regev & Guttmann, 2005; Saunders & Saunders, 2000).

Within this small body of outcomes studies, several of the complications that historically have been found in art therapy research continue to exist. There is a lack of standardized reporting and utilization of control groups, and a tendency to use anecdotal case material to demonstrate treatment outcomes rather than measured results. Often, poor or only vague descriptions of the treatment interventions are provided, which makes it difficult or impossible to determine the study procedures. Finally, studies that mix interventions prevent an examination of which intervention led to the changes reported.

#### Conclusion

As artists and people with life experience, we intuitively know that art therapy works. On any given day we may feel that "of course it was the art therapy" that allowed a client to make a certain improvement. Our perception rules out other possibilities when art therapy fits as the best solution for a client or worked in the same way for another client. Thus, it is essential to provide evidence of the efficacy of our treatment of choice. There are many people invested in the outcome of the treatment of given clients; most importantly, the clients themselves need to know that the art therapy treatment they are being offered has been shown to mitigate the challenges they face.

Given the complicated clinical dilemmas of the 21st century, at times it can feel discouraging to work in the art therapy field without a reminder that what we are doing not only has meaning but also makes tangible headway in the areas where our clients are suffering. In the midst of completing this review of outcomes research, the authors were encouraged by the fact that two clinical settings in our community consider art therapy, at least preliminarily, to be an "evidence-based" treatment. One is a secure program for adolescent males who have been adjudicated for sexual offenses. This program has recognized the value of nonverbal and metaphorical processes inherent in art therapy in working with these youth, many of whom suffer from the kinds of complex trauma and the cognitive distortions that Smeijsters and Cleven (2006) described in their study. During a recent site audit, the individual and group art therapy interventions provided by graduate student interns at the site were recognized as concrete evidence of progress

toward the specific treatment goals of identifying safe coping skills and improving social skills. This treatment program relies on evidence-based treatment outcomes for funding, so we were very encouraged to learn of this development (K. K. Doolittle, personal communication, March, 2008).

The second development in our local community came from a day treatment and residential program that serves elderly adults with medical, mental health, and cognitive impairments. This agency is interested in writing a grant for art therapy services based on the following rationale by Dale (2008):

Preliminary examination of the data indicates that participants using [art therapy] make less phone calls to medical and mental health providers; require fewer referrals to medical specialists; have a decreased number of somatic symptoms and complaints; and reduce their utilization of medical and mental health services. (p. 2)

Although we believe that art therapists have the same challenges we have always had in art therapy research—to be more standardized and more precise, to do more fully experimental designs, and to replicate studies—there seems to be positive movement in the field of art therapy, and ultimately, toward the well-being of our clients and patients. Since 2007, which was the end date for the studies in our review, several new studies have been conducted. Continued improvement in our field will be accomplished by evaluating outcome studies that have emerged since 2008 and by conducting larger-scale effectiveness studies in the future. Our review is a small contribution to the ongoing clarification of how art therapy helps with various challenges and what components of the art therapeutic encounter lead to positive outcomes.

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